COOPER COILTRONICS®

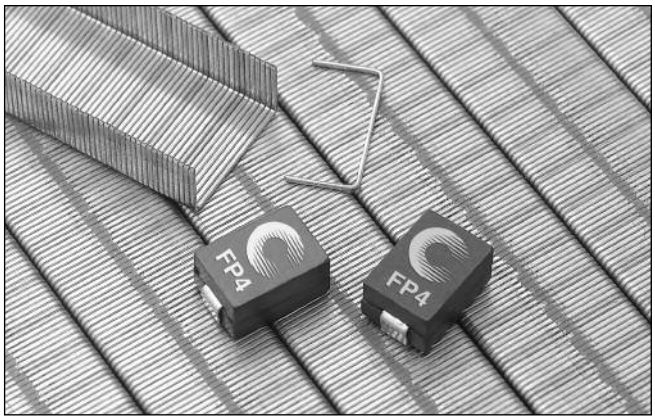
COOPER Bussmann

FLAT-PAC™ 4
5mm Height Inductors
(Surface Mount)

RoHS 2002/95/EC

Description

- 155°C maximum total temperature operation
- Surface mount inductors designed for high speed, high current switch mode applications requiring lower inductance
- Gapped ferrite cores for maximum efficiency
- Inductance values from 0.100 uH to 0.200 uH
- Current range up to 64 Amps
- Meets UL 94V-0 flammability standard
- Ferrite core material



Applications

- Voltage regulator modules (VRMs) for servers, microprocessors
- High frequency, high current switching power supplies

Environmental Data

- Storage temperature range: -40°C to +155°C
- Operating ambient temperature range: -40°C to +155°C (range is application specific).
- Solder reflow temperature: +260°C max. for 10 seconds max.

Packaging

- Supplied in tape and reel packaging, 900 parts per reel

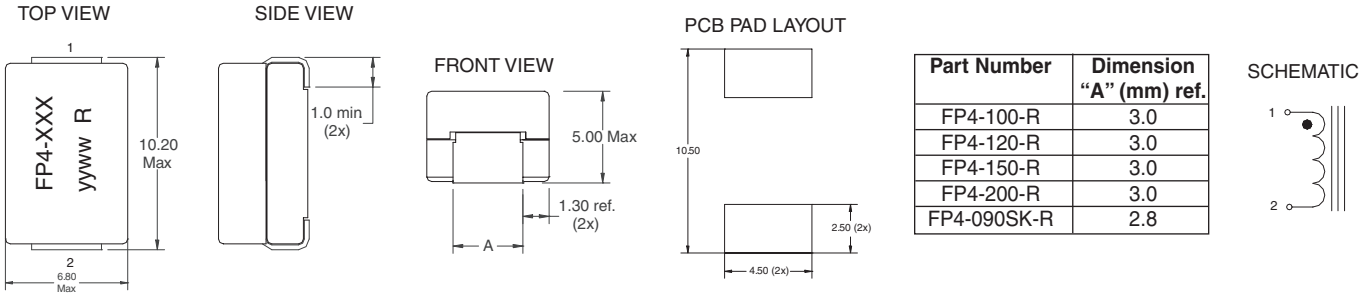
Part Number	Rated Inductance µH	OCL (2) ± 15% µH	Isat (5) Amperes Peak	Irms (4) Amperes	DCR Ω @ 20°C (Nom.)	DCR Ω @ 20°C (Max.)	Volts-µSec (3) (VuSec) (ref.)
FP4-100-R	0.100	0.100	64	40	0.00048	0.00065	1.33
FP4-120-R	0.120	0.120	54	40	0.00048	0.00065	1.33
FP4-150-R	0.150	0.150	42	40	0.00048	0.00065	1.33
FP4-200-R	0.200	0.200	30	40	0.00048	0.00065	1.33

1) Units supplied in Tape & Reel packaging; 900 parts on 13" diameter reel.
2) OCL (Open Circuit Inductance) Test parameters: 1MHz, .100Vrms, 0.0Adc & ISAT @20°C
3) Applied Volt-Time product (V-µS) across the inductor. This value represents the applied V-µS at 500kHz necessary to generate a core loss equal to 10% of the total losses for 40°C temperature rise.
4) DC current for an approximate ΔT of 40°C without core loss. Derating is necessary for AC currents. PCB layout, trace thickness and width, airflow, and proximity of other heat generating components will affect the temperature rise. It is recommended that the temperature of the part not exceed 155°C under worst case operating conditions verified in the end application.
5) Peak Current for approximately 30% rolloff @ 20°C

Part Number	Rated Inductance µH	OCL (2) ± 15% µH	Isat (5) Amperes Peak	Irms (4) Amperes	DCR @ 25°C	Volts-µSec (3) (Vus) (ref.)
FP4-090SK-R	0.090	0.090	72	33	0.423-0.517	1.33

1) Units supplied in Tape & Reel packaging; 900 parts on 13" diameter reel.
2) OCL (Open Circuit Inductance) Test parameters: 100kHz, 1.0Vrms, 0.0Adc & ISAT @25°C
3) Applied Volt-Time product (V-µS) across the inductor. This value represents the applied V-µS at 500kHz necessary to generate a core loss equal to 10% of the total losses for 40°C temperature rise.
4) DC current for an approximate ΔT of 40°C without core loss. Derating is necessary for AC currents. PCB layout, trace thickness and width, airflow, and proximity of other heat generating components will affect the temperature rise. It is recommended that the temperature of the part not exceed 155°C under worst case operating conditions verified in the end application.
5) Peak Current for approximately 20% rolloff @ 25°C

Mechanical Diagrams



Part Number	Dimension "A" (mm) ref.
FP4-100-R	3.0
FP4-120-R	3.0
FP4-150-R	3.0
FP4-200-R	3.0
FP4-090SK-R	2.8

SCHEMATIC

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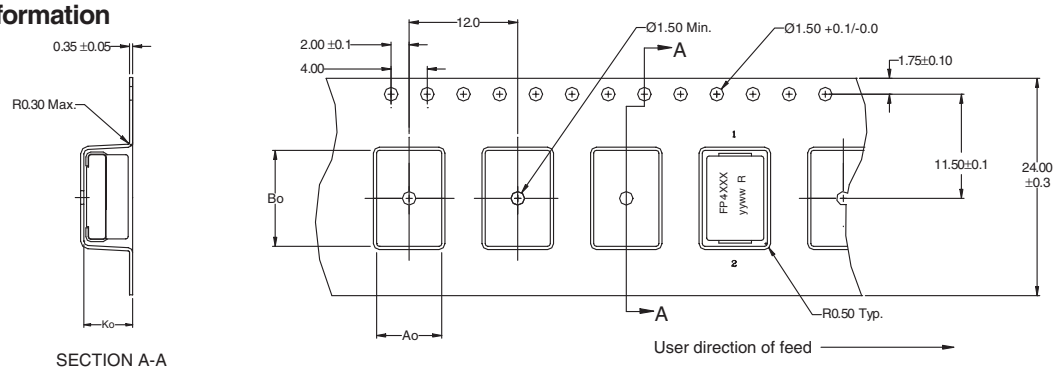
Packaging Information



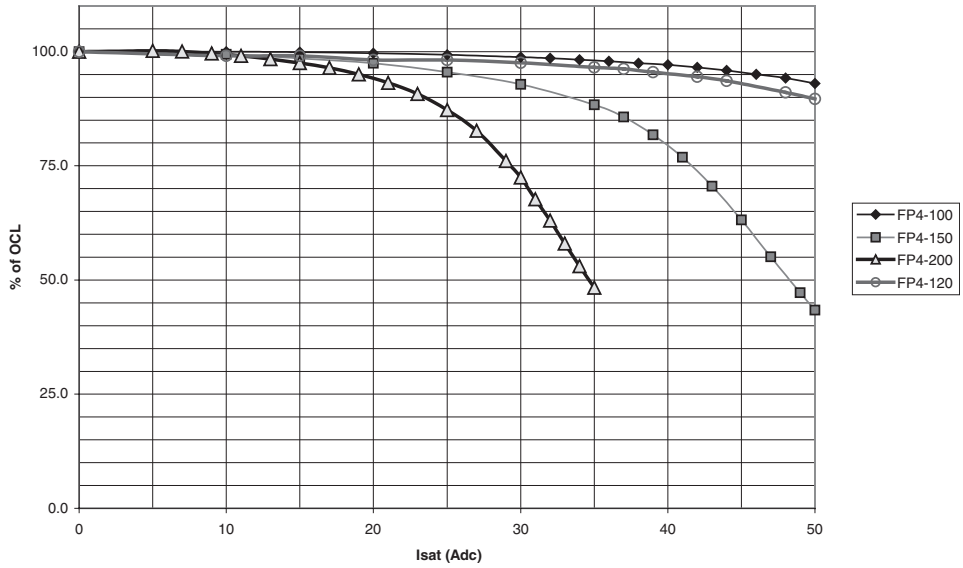
Ao=7.20mm
Bo=10.60mm
Ko=5.40mm

Dimensions in Millimeters

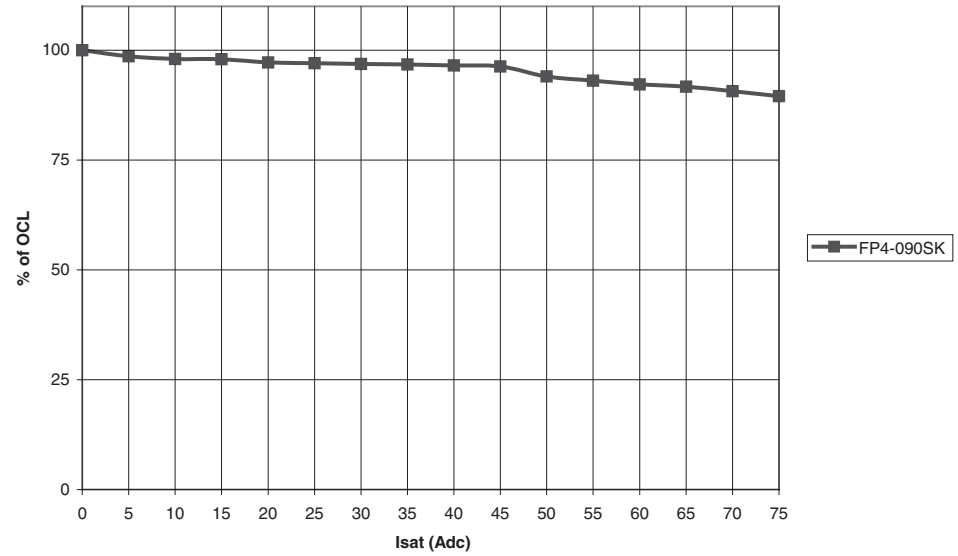
xxx = Inductance value
yww = Date code R = Revision level

Inductance Characteristics

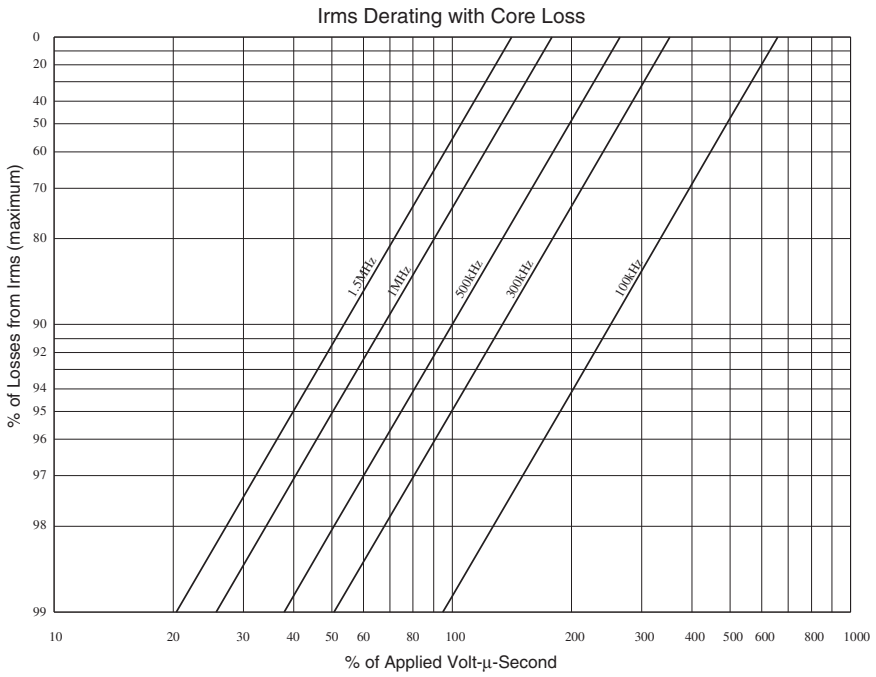
OCL vs. Isat



Inductance Rolloff vs Isat



Core Loss



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